

ABSTRACT OF THE DISCLOSURE

A method of expelling a fluid includes filling a nozzle with a fluid using a capillary force, generating an ion wind by ionizing air near an outlet of the nozzle, and expelling the fluid from the nozzle as the ion wind decreases a pressure around the outlet of the nozzle. An ink-jet printhead utilizing the method includes a manifold formed in a passageway plate to supply ink, a nozzle to be supplied with ink formed in a nozzle plate provided on the passageway plate, and a ground electrode and a source electrode arranged near an outlet of the nozzle, the ground electrode and the source electrode forming an electric field due to an application of a voltage thereto and ionizing air near the outlet of the nozzle to produce an ion wind to decrease a pressure near the outlet of the nozzle to expel the ink contained in the nozzle.